AMENDMENTS TO THE DRAWINGS

The attached drawings include changes to Figs. 1, 2, and 4. The attached Figs. 1, 2, and 4 replace the original sheet including Figs. 1, 2, and 4. Appropriate text has been applied to the boxes in Figs. 1, 2, and 4. Approval of these changes to the Drawings is respectfully requested.

REMARKS

Claims 14, 16-24, 26-34, 36-45, and 47-54 are pending in this application. Claims 14, 16, 24, 26, 34, 36, 45, and 47 are amended herein. Claims 15, 25, 35, and 46 are cancelled herein without prejudice or disclaimer. Support for the amendments to the claims may be found in the cancelled claims, as well as at page 7, paragraphs [0033] and [0034]. Reconsideration is requested based on the foregoing amendment and the following remarks.

Objections to the Drawings:

The drawings were objected to for lacking text in the boxes. Appropriate text has been applied to the boxes in Figs. 1, 2, and 4. The changes to the drawings merely comport the drawings to, inter alia paragraphs [0014]-[0021], [0023], [0024], [0025], [0028]-[0033], and [0044] of the specification of record, and thus constitute no prohibited new matter. Withdrawal of the objections to the drawings is earnestly solicited.

Claim Rejections - 35 U.S.C. § 103:

Claims 14, 16-24, 26-33, 45, and 47-54 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,108,631 to Rühl et al. (hereinafter "Rühl") in view of U.S. Patent No. 5,638,425 to Meador, III et al. (hereinafter "Meador, III"), and further in view of U.S. Patent No. 5,995,928 to Nguyen et al. (hereinafter "Nguyen"). The rejection is traversed to the extent it might apply to the claims as amended. Reconsideration is earnestly solicited.

As Rühl describes in the Abstract, Rühl performs a sequential search for a location or a street name entered in the form of speech. If the location or the street name for which Rühl searches is not found, the user is requested to input some initial letters of the search name. In one of Rühl's methods, described at column 8, lines 14-31, the user spells the first five letters of the search name. The user is then informed that there will be a waiting period, while the speech recognition device tries a plurality of alternative recognized letters for each of the letters input by the user, along with assigning probabilities that the recognition is correct. This information is then used to pre-select a list of probable locations, and applied to the speech recognition device. There is a disadvantage with this method in that the speech recognition system cannot determine whether the number of spoken letters is sufficient for a concise selection of location names to present to the user for determining a speech recognition result.

In another method, described at column 8, lines 31-42, Rühl asks the user each time whether the letter has been recognized correctly. The relevant location names which either

commence with the recognized letters or which succeed the initial letters, meanwhile, are selected in the background. These location names are either provided with a number and displayed on a display screen, or else they are applied to the speech recognition device. There is a disadvantage with this method in that the user has to verify each single letter as it is presented, which is laborious, while at the same time checking to see whether the searched location name is already in the preselection list, or if he has to continue providing letters. Neither of Rühl's methods are thus user-friendly.

In the claimed invention, in contrast, a letter recognition probability is assigned based on the letter speech signals, and a word list of all the words in a second dictionary having a letter recognition probability not lower than a highest predetermined letter recognition for any word, minus a first threshold value, is determined. The word list in the second dictionary is drawn up in the case of each detected and evaluated signal representing a single letter. This process is terminated by the system if a desired probability is obtained by assessing the probability of correct word recognition using the second vocabulary. Thus, the user has neither to verify one single spoken letter nor has to control a preselection list on a display. Instead, the speech recognition system itself knows when the number of spoken letters is sufficient for a concise selection of location names or for determining a speech recognition result.

In Nguyen, as described at column 6, lines 40-49, if a predefined criterion is satisfied, the system considers a match to have been made, and performs early identification. If the criterion is not satisfied, the spelling engine waits for the next update from the speech recognition engine and recalculates the scores for each of the vocabulary words based on the new string of hypothesized letters.

Thus, Nguyen does not draw up a new word list for each detected and evaluated letter signal, but rather recalculates a new score for each vocabulary word. This has the disadvantageous effect, in contrast to the claimed invention, of requiring a very time consuming re-calculation of the score for the whole vocabulary and, in addition, the vocabulary would not be limited to a concise preselection for applying to the speech recognition system.

Claims 14, 24, and 45, in particular, recite:

A second vocabulary larger than the first vocabulary.

Rühl neither teaches, discloses, nor suggests "a second vocabulary larger than the first vocabulary," as recited in claims 14, 24, and 45. In Rühl, rather, the second list contains a *part* of the location names of the first list of locations, not "a second vocabulary larger than the first vocabulary," as recited in claims 14, 24, and 45. In particular, as described at column 6, lines

22-28,

> A complete search for a location name in the entire list of locations may require several minutes in state of the art navigation systems. In order to accelerate the search for a location name, the CD-ROM 7 contains at least one second list of locations which contains a part of the location names of the first list of locations. The second list of locations is sorted on the basis of a frequency criterion. The latter may be the location names most frequently used.

Since, in Rühl, the second list contains a part of the location names of the first list of locations, the second list must necessarily be smaller than the first list. Neither Nguyen nor Meador, III mention "a second vocabulary larger than the first vocabulary," at all, and thus cannot make up for the deficiencies of Rühl with respect to claims 14, 24, and 45.

Claims 14, 24, and 45 recite further, substantially:

> Assigning a letter recognition probability based on the letter speech signals; determining a word list of all words in the second vocabulary having a letter recognition probability not lower than a highest determined letter recognition probability for any word, minus a first threshold value; and
> a new word list is drawn up in the case of each detected and evaluated letter signal.

Neither Rühl, Nguyen, nor Meador, III teach, disclose, or suggest, "assigning a letter recognition probability based on the letter speech signals," "determining a word list of all words in the second vocabulary having a letter recognition probability not lower than a highest determined letter recognition probability for any word, minus a first threshold value." and "a new word list is drawn up in the case of each detected and evaluated letter signal," as recited in claims 14, 24, and 45. Thus, even if Rühl, Nguyen, and Meador, III were combined as proposed in the Office Action, the claimed invention would not result. Claims 14, 24, and 45 are submitted to be allowable. Withdrawal of the rejection of claims 14, 24, 34, and 45 is earnestly solicited.

Claims 16, 17, 26, 27, 47, and 48 depend from claims 14, 24, or 45 and add additional distinguishing elements. Claims 16, 17, 26, 27, 47, and 48 are thus also submitted to be allowable. Withdrawal of the rejection of claims 16, 17, 26, 27, 47, and 48 is earnestly solicited.

<u>Claims 18, 28, and 49:</u>

Claims 18, 28, and 49 recite, substantially:

> Carrying out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability.

Neither Rühl, Nguyen, nor Meador, III teach, disclose, or suggest, "carrying out speech

recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability," as recited in claims 18, 28, and 49. In Meador, III, rather, the VPU at 126 requests the user to state the first three letters of the city or location name if the city or location cannot be satisfactorily translated on the basis of the utterance of the user. *Only* if the letters of the alphabet articulated by the user can be decoded or translated by the alphabet recognition board with a *sufficient* level of probability is a city/location database search performed. In particular, as described at column 9, lines 26-38:

> Returning to FIG. 3, if the determination at 76 is negative, i.e., if the city or location cannot be satisfactorily translated on the basis of the utterance of the user, the MDAS establishes a connection to the alphabet recognition board at 124 in FIG. 7 and the VPU at 126 requests the user to state the first three letters of the city or location name. When this has been done a determination is made at 128 as to whether the spoken letters may be translated by the alphabet recognition board with a sufficient probability level. If the letters of the alphabet articulated by the user can be decoded or translated by the alphabet recognition board with a sufficient level of probability a city/location database search is made and at 136 a determination is made as to whether more than one match has been located.

Since, in Meador, III, a city/location database search is only performed if the letters of the alphabet articulated by the user can be decoded or translated by the alphabet recognition board with a sufficient level of probability is, Meador, III is not "carrying out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability," as recited in claims 18, 28, and 49, contrary to the assertion in the Office Action. Thus, even if Rühl, Nguyen, and Meador, III were combined as proposed in the Office Action, the claimed invention would not result. Claims 18, 28, and 49 are submitted to be allowable. Withdrawal of the rejection of claims 18, 28, and 49 is earnestly solicited.

Claims 19, 29, and 50:

Claims 19, 29, and 50 recite, substantially:

> Terminating spelling and outputting a word if the word is obtained with a second desired probability by said assessing the probability of correct word recognition.

Neither Rühl, Nguyen, nor Meador, III teach, disclose, or suggest, "terminating spelling and outputting a word if the word is obtained with a second desired probability by said assessing the probability of correct word recognition," as recited in claims 19, 29, and 50. In Nguyen, rather, the system performs early identification if predefined criteria are satisfied by a particular *score*, not "if the word is obtained with a second desired probability by said assessing the

probability of correct word recognition," as recited in claims 19, 29, and 50. In particular, as described in Nguyen at column 9, lines 26-38:

> The scores calculated by the analysis module may be sent to a scoring module of the spelling engine. The scoring module compares the scores calculated by the analysis module against predefined criteria. The criteria, for example, may require that the score exceeds a certain threshold value and that the score exceeds the next best score by a certain amount. If no score satisfies the predefined criteria, the spelling engine waits for the next update to the hypothesized letter string from the speech recognition engine and then recalculates the scores for each vocabulary word based on this new string of hypothesized letters. When the predefined criteria are satisfied by a particular score, the system considers itself to have a match. The system, in a preferred aspect, then performs early identification, i.e. the system presents the matching word(s) from the vocabulary list to the user for acceptance, often before the user has finished spelling the word(s). The system may present the word by means of a speech synthesizer or by means of prerecorded stored speech waveforms.

Thus, in Nguyen, the system performs early identification if predefined criteria are satisfied by a particular *score*, not "if the word is obtained with a second desired probability by said assessing the probability of correct word recognition," as recited in claims 19, 29, and 50, contrary to the assertion in the Office Action at page 4, second paragraph. Thus, even if Rühl, Nguyen, and Meador, III were combined as proposed in the Office Action, the claimed invention would not result. Claims 19, 29, and 50 are submitted to be allowable. Withdrawal of the rejection of claims 19, 29, and 50 is earnestly solicited.

Claims 20-23, 30-33, and 51-54 depend from claims 19, 29, or 50 and add additional distinguishing elements. Claims 20-23, 30-33, and 51-54 are thus also submitted to be allowable. Withdrawal of the rejection of claims 20-23, 30-33, and 51-54 is earnestly solicited.

Claims 34 and 36-43:

Claims 34 and 36-43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,752,230 to Alonso-Cedo (hereinafter "Alonso-Cedo") in view of U.S. Patent No. 6,249,765 to Adler et al. (hereinafter "Adler"). The rejection is traversed to the extent it might apply to the claims as amended. Reconsideration is earnestly solicited.

Claim 34 recites:

A second vocabulary larger than the first vocabulary.

Neither Alonso-Cedo nor Adler teach, disclose, or suggest, "a second vocabulary larger than the first vocabulary," as recited in claim 34. The Office Action does not even assert that either of the references do show "a second vocabulary larger than the first vocabulary," as

recited in as recited in claim 34.

Neither Alonso-Cedo nor Adler teach, disclose, or suggest, "assigning a letter recognition probability based on the letter speech signals," "determining a word list of all words in the second vocabulary having a letter recognition probability not lower than a highest determined letter recognition probability for any word, minus a first threshold value." and "a new word list is drawn up in the case of each detected and evaluated letter signal," as recited in as recited in claim 34, either. Thus, even if Alonso-Cedo and Adler were combined as proposed in the Office Action, the claimed invention would not result. Claim 34 is submitted to be allowable. Withdrawal of the rejection of claims 34 is earnestly solicited.

Claims 36 and 37 depend from claim 34 and add additional distinguishing elements. Claims 36 and 37 are thus also submitted to be allowable. Withdrawal of the rejection of claims 36 and 37 is earnestly solicited.

Claim 38:

Claim 38 recites:

> To carry out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability.

Neither Alonso-Cedo nor Adler teach, disclose, or suggest, "to carry out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability," as recited in claim 38. The Office Action does not even assert that either of the references do show "to carry out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability," as recited in as recited in claim 38. Thus, even if Alonso-Cedo and Adler were combined as proposed in the Office Action, the claimed invention would not result. Claim 38 is submitted to be allowable. Withdrawal of the rejection of claims 38 is earnestly solicited.

Claims 39-43:

Claim 39 recites:

> To terminate the evaluation of respective letter signals and generate second output signals causing said speech output device to output a word obtained with a second desired probability based on the assessment of the combined recognition probability.

Neither Alonso-Cedo nor Adler teach, disclose, or suggest, "to terminate the evaluation of respective letter signals and generate second output signals causing said speech output device to output a word obtained with a second desired probability based on the assessment of the combined recognition probability," as recited in claim 39. The Office Action does not even assert that either of the references do show "to terminate the evaluation of respective letter signals and generate second output signals causing said speech output device to output a word obtained with a second desired probability based on the assessment of the combined recognition probability," as recited in as recited in claim 39. Thus, even if Alonso-Cedo and Adler were combined as proposed in the Office Action, the claimed invention would not result. Claim 39 is submitted to be allowable. Withdrawal of the rejection of claims 38 is earnestly solicited.

Claims 40-43 depend from claim 39 and add additional distinguishing elements. Claims 40-43 are thus also submitted to be allowable. Withdrawal of the rejection of claims 40-43 is earnestly solicited.

Claim 44:

Claim 44 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Alonso-Cedo and Adler in view of U.S. Patent No. 3,928,724 to Byram et al. (hereinafter "Byram"). The rejection is traversed to the extent it might apply to the claims as amended. Reconsideration is earnestly solicited.

Claim 44 depends from claim 39 and adds additional distinguishing elements. Neither Alonso-Cedo nor Adler teach, disclose, or suggest, "to terminate the evaluation of respective letter signals and generate second output signals causing said speech output device to output a word obtained with a second desired probability based on the assessment of the combined recognition probability," as discussed above with respect to the rejection of claim 39. Byram does not either, and thus cannot make up for the deficiencies of either Alonso-Cedo or Adler with respect to claim 44. Thus, even if Alonso-Cedo, Adler and Byram were combined as proposed in the Office Action, the claimed invention would not result. Claim 44 is thus also submitted to be allowable. Withdrawal of the rejection of claim 44 is earnestly solicited.

Conclusion:

Accordingly, in view of the reasons given above, it is submitted that all of claims 14, 16-24, 26-34, 36-45, and 47-54 are allowable over the cited references. Allowance of all claims 14, 16-24, 26-34, 36-45, and 47-54 and of this entire application is therefore respectfully requested.

There being no further outstanding objections or rejections, it is submitted that the

application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 12 DEC 05

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